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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/862,665	05/21/2001	Nicola Zatelli	854063.496C1	2168

500 7590 05/22/2003

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EXAMINER

FARAHANI, DANA

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/862,665

Applicant(s)

ZATELLI ET AL.

Examiner

Dana Farahani

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/24/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-14 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 6, 8, 15-17, and 20 is/are rejected.
- 7) ☒ Claim(s) 2, 4, 7, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 15-17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogura et al., hereinafter Ogura (U.S. Patent 5,681,770).

Ogura discloses in figure 4G a structure comprising an oxide layer 115 located above a body of doped semiconductor material 103 and arranged in a position adjacent to a first gate region 112 of polycrystalline semiconductor material, the oxide layer having a first area; an oxide test region 117 of the same material as the oxide layer and having the same thickness and the same electrical characteristics as the oxide layer; a first oxide region 102 separating the oxide test region from the oxide layer (that is from the neighboring oxide layer; note that figure 4G represents one cell of the many cells which all have the test and the oxide region); and a polycrystalline region 112 of the same material as the gate region, having same thickness and the same electrical characteristics as the gate region, and positioned adjacent to the oxide test region, which has a second area greater than the first area (see column 8, lines 43-65).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 5, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura.

Regarding claims 3, 5, and 8, there is a doped semiconductor material body 104; a gate region 112 of polycrystalline semiconductor material; an oxide layer, the right smaller half of layer 117, located above the semiconductor material body adjacent to the gate region and having a first area; a test region (the left gate (112) area) on the semiconductor material body, the test region including an oxide test region 117 of a same material as the oxide layer and having a thickness equal to the thickness of the oxide layer, having a second area that is greater than the first area; and poly-silicon 114 surrounds the test region.

Ogura does not disclose the oxide test region being very large.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the oxide test region very large in order to make a transistor device suitable for studying the characteristics of it in an educational laboratory. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1995).

Regarding claims 6, the oxide and test regions each overly corresponding active regions beneath them in the substrate.

Allowable Subject Matter

5. Claims 9-14 are allowed.
6. Claims 2, 4, 7, 18, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of allowability of the claims 2, 4, 7, 18 and 19 is the inclusion therein of the limitation that of the polycrystalline region has a closed perimeter that completely surrounds a central opening in the polycrystalline region, and it surrounds and delimits the oxide test region.

The primary reason for the indication of allowability of the claims 9-14 is the inclusion therein of the limitation that of the dielectric test region is directly on the semiconductor material body.

Response to Arguments

7. Applicants' arguments filed 2/24/03 have been fully considered but they are not persuasive.

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Applicants argue that the feature in claim 1, namely, the oxide layer and the test layer are of the same material and thickness, is not disclosed by Ogura and therefore, claim 1 is not anticipated by the reference. However, the examiner notes that the two layer have the same thickness, as can be seen in the figure, and it is stated in the reference, at column 8, lines 45 and 46, that layer 117 is preferably a combination of oxide and nitride. The layer would have been oxide, but the reference recommends using nitride along with oxide. This is because oxide is the most widely used insulator in IC chip design industry.

Regarding applicants' argument that the polycrystalline region 114 does not completely surrounds region 117, note that in figure 4G region 114 completely surrounds region 117 at least at one side of region 117 (the lower side).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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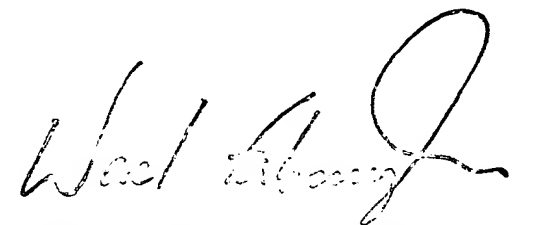
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (703)305-1914. The examiner can normally be reached on M-F 8:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703)308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Dana Farahani
May 18, 2003

A handwritten signature in black ink, appearing to read 'Wael Fahmy', is written over a faint, circular official stamp.

SUPERVISORY PRIMARY EXAMINER
TECHNOLOGY CENTER 2800